Monday May 3, 2021 Activator

Class Survey. Do you like or dislike Math?

	Males	Females	Totals
Likes Math			
Dislikes Math			
Totals			

This is called a Two-Way Frequency Table.

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Today's Objective

Students will be able to create two-way frequency tables with supports.

Unit 2.6 Real Life Pictures

What is your favorite sport to watch on television?

	Football	Basketball	Baseball
Males	40	22	15
Females	12	16	45
Total	52	38	60

	Junior	Senior	Total
Instagram	55	105	160
Snapchat	150	90	240
Total	205	195	400

Concession Stand Sales

	Soda	Water	No Drink	Total
Hot Dog	50	62	46	158
Pizza	120	58	4	182
No Food	30	20	10	60
Total	200	140	60	400

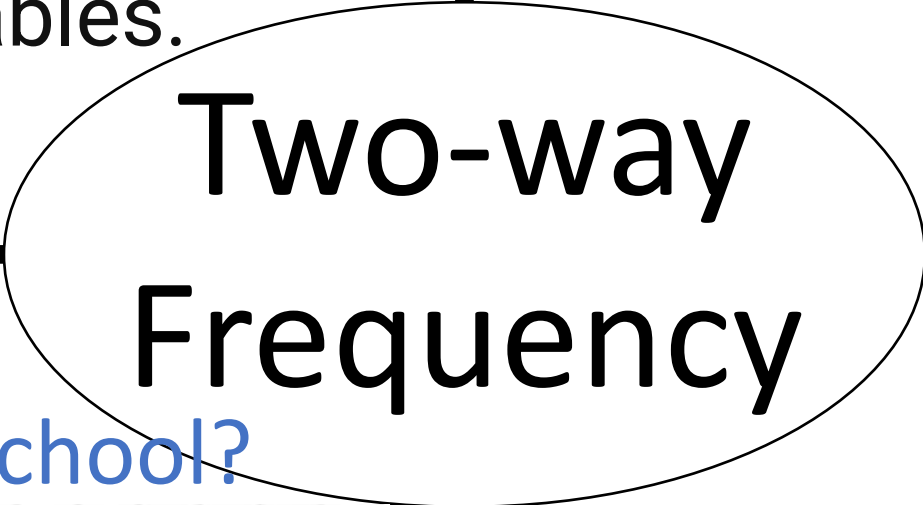|	Walk	Car	Other	Total
Boy	15	25	14	54
Girl	22	8	16	46
Total	37	33	30	100

Definition

A two-way frequency table is a table that displays the frequencies (or "counts") for two categorical variables.

Facts

It is a way to organize data.

Data can be interpreted quickly.

Two-way Frequency

Example(s)

How do you get to school?

	Walk	Car	Other	Total
Boy	15	25	14	54
Girl	22	8	16	46
Total	37	33	30	100

Non-Example(s)

One set of raw data won't work. You need to be able to compare information.

90	94	100	102	104	105	99	93
89	91	98	105	105	104	101	100
51	65	77	85	82	82	73	61
64	82	88	89	89	90	82	71
34	42	47	72	79	76	62	43
36	43	52	68	78	72	66	46
46	60	80	86	83	84	72	58
49	63	86	92	93	88	79	53
58	72	90	92	91	90	79	66
56	60	67	72	77	78	76	69
56	74	89	96	94	93	84	65

Today's New Vocab (2 of 4)

Survey Data: 31 students participated in a survey.
13 Males and 11 Females like Math
2 Males and 5 Females dislike Math

	Males	Females	Totals
Likes Math	13	11	24
Dislikes Math	2	5	7
Totals	15	16	31

Analyze the table.

(1) What fraction of students like Math? $\dfrac{24}{31}$

(2) What fraction of students were Girls? $\dfrac{16}{31}$

(3) What fraction of the boys Dislike Math? $\dfrac{2}{15}$

(4) What fraction of the students that like math were girls? $\dfrac{11}{24}$

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Making fractions into decimals and percents.

Divide the fraction to create a decimal.

$$\frac{24}{31} = 0.77 \quad \frac{16}{31} = 0.51 \quad \frac{2}{15} = 0.13 \quad \frac{11}{24} = 0.45$$

Multiply the decimal by 100 to make a percent.

$$0.77(100) = 77\% \qquad 0.13(100) = 13\%$$

$$0.51(100) = 51\% \qquad 0.45(100) = 45\%$$

Here is some All-State Insurance Company 2020 data from Dutchess County.

		Age Group			
		Under 25	25-45	Over 45	Total
Number of accidents in past 3 years	0	74	90	84	248
	1	19	8	12	39
	> 1	7	2	4	13
Total		100	100	100	300

Explain these two fractions from the survey.

$$\frac{7}{100} = \text{Under 25 years old with more than 1 accident.}$$

$$\frac{90}{248} = Age\ 25 - 45\ with\ 0\ accidents.$$

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Write one Statistic.

		Age Group			
		Under 25	25-45	Over 45	Total
Number of accidents in past 3 years	0	74	90	84	248
	1	19	8	12	39
	> 1	7	2	4	13
	Total	100	100	100	300

From this survey, what can be said about young drivers?

Young drivers are more likely to get into accidents.

What would you do if you owned the Insurance Company knowing this?

Charge the young drivers more money for insurance.

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Can you fill in the missing data?

	Left-handed	Right-handed	Total
Boys	17	18	35
Girls	12	23	35
Total	29	41	70

How do you get the missing data?

If you HAVE the total, subtract to find the missing.

If you NEED the total, add the information.